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Data Networking Products

Administration Quick Reference

255-100-233
Issue 3

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Product Documentation

A brochure, *Data Networking Products Publications* (255-100-235), describes the customer documentation set available for BNS-2000/BNS-2000 VCS, its network management system—*StarKeeper*® II NMS, and related products. It is orderable from the Lucent Technologies CIC at the address above.

Updates

Lucent Technologies can automatically provide you with updates to any BNS-2000 document. If you wish to be included on the update list, call the Lucent Technologies CIC, ask to be placed on standing order, and indicate the documents by document number. The document updates will be shipped to you as they are stocked by CIC.

All commands supported in BNS-2000, Release 5.0, and BNS-2000 VCS/*Datakit* II VCS, Release 6.0, by the node console are listed in this quick reference. This reference also supplies service address and dial string formats, with examples, for connection-oriented services.

The commands listed here are more fully described in the following node, concentrator, and interface module documents.

BNS-2000 Documents	
Access Interface Module Reference	255-184-107
Node Reference	255-184-153
Data Networking Products Documents	
Commands Reference	255-100-234
Multipurpose Concentrator Reference	255-100-228
Synchronous/Asynchronous Multiplexer Reference	255-100-203
Computer Port Module Reference	255-100-204
Frame Relay Module Reference	255-100-205 Iss 4
LAN Protocol Module Reference	255-100-206
M2 Frame Relay Module Reference	255-100-237
M2 Trunk Module Reference	255-100-231
Multispeed Module Reference	255-100-207
Special Module Reference	255-100-211
SYNC8 Module Reference	255-100-212
Transparent Synchronous Module Reference	255-100-214
Trunk Module Reference	255-100-213
TY Module Reference	255-100-215
X.25 and X.25P Module Reference	255-100-216 Iss 3
X.75 Module Reference	255-100-217

Additional commands that support session maintenance, Switched Multimegabit Data Service (SMDS), and other features are available through the *StarKeeper* II Network Management System (NMS) administrative interface. These commands are documented in the *StarKeeper* II NMS library.

Operations Commands

The following commands can be entered at the Control Computer operations mode prompt **CC0>** or **CC1>**. In a dual Control Computer node, one command (**stop**) can also be entered at the **SC0>** or **SC1>** prompt.

Commands marked with an asterisk are available with BNS-2000 software only; commands marked with a dagger are available with BNS-2000 VCS/*Datakit* II VCS software only. All others are available with both BNS-2000 and BNS-2000 VCS/*Datakit* II VCS software options.

Note: To obtain on-line help with command entry, enter one of the following commands at the **CC0>** or **CC1>** prompt:

help

help plus the command verb (for example, **help enter**)

help plus the command verb and object (for example, **help enter ty**)

Command	Minimal Abbreviation
backup active	b a
backup host	b h
backup save	b sa
backup standby	b st
backup tape	b t
change address	ch ad
*change ai	ch ai
†change aim	ch ai
change bdt	ch bdt
†change bridge	ch br
change bsc3270	ch bs
change concentrator	ch co
change cpm	ch cpm
change cpmml	ch cpmm
change dkap	ch dk
change e2a	ch e
change frm	ch frm
*change frm-m2	ch frm-
*change gar	ch gar
change gateway	ch gat
change group	ch gr

Command	Minimal Abbreviation
change logoff	ch lo
change lpm	ch lp
change msm	ch m
change node	ch n
change profile	ch p
change sam	ch sam
change samml	ch samm
change sdlc8	ch sd
*change shelf	ch sh
change slm	ch sl
change sphaddr	ch sp
*change ssm4	ch ss
*change str4	ch st
*change threshold	ch th
change trunk	ch tr
change tsm8	ch tsm8
change tsmt1	ch tsmt
change ty	ch ty
change x25	ch x25
change x25p	ch x25p
change x28sig	ch x28
change x75	ch x7
copy module	cop m
delete address	de ad
*delete ai	de ai
†delete aim	de ai
†delete bridge	de br
delete bsc3270	de bs
delete concentrator	de co
delete cpm	de cpm
delete cpmml	de cpmm
delete dkap	de dk
delete e2a	de e

Command	Minimal Abbreviation
delete frm	de frm
*delete frm-m2	de frm-
*delete gar	de gar
delete gateway	de gat
delete group	de gr
delete logoff	de lo
delete lpm	de lp
delete msm	de m
delete profile	de p
delete sam	de sam
delete samml	de samm
delete sdlc8	de sd
*delete shelf	de sh
delete slm	de sl
*delete ssm4	de ss
*delete str4	de st
*delete threshold	de th
delete trunk	de tr
delete tsm8	de tsm8
delete tsmt1	de tsmt
delete ty	de ty
delete x25	de x25
delete x25p	de x25p
delete x28sig	de x28
delete x75	de x7
diagnose ai	dia ai
†diagnose aim	dia ai
†diagnose bridge	dia br
diagnose bsc3270	dia bs
diagnose concentrator	dia co
diagnose cpm	dia cpm
diagnose cpmml	dia cpmm
diagnose dkap	dia d

Command	Minimal Abbreviation
diagnose e2a	dia e
diagnose frm	dia f
*diagnose frm-m2	dia frm-
*diagnose gar	dia g
diagnose lpm	dia l
diagnose msm	dia m
diagnose sam	dia sam
diagnose samml	dia samm
diagnose samtrk	dia samt
diagnose sdlc8	dia sd
*diagnose shelf	dia sh
diagnose slm	dia sl
*diagnose ssm4	dia ss
*diagnose str4	dia st
diagnose trunk	dia tr
diagnose tsm8	dia tsm8
diagnose tsmt1	dia tsmt
diagnose ty	dia ty
diagnose x25	dia x25
diagnose x25p	dia x25p
diagnose x75	dia x7
display circuits	dis ci
display connections	dis co
display eia	dis e
display held	dis h
*display routes	dis r
display time	dis ti
*display traffic	dis tr
*dmeas ai	dm ai
dmeas bsc3270	dm bs
dmeas concentrator	dm conc
dmeas connections	dm conn
dmeas cpackets	dm cpa

Command	Minimal Abbreviation
dmeas cpmml	dm cpm
dmeas dkap	dm dk
dmeas frm	dm f
*dmeas frm-m2	dm frm-
*dmeas gar	dm g
dmeas lpm	dm l
dmeas mpackets	dm m
dmeas sam	dm sam
dmeas samml	dm samml
dmeas sdlc8	dm sd
*dmeas shelf	dm sh
dmeas trunk	dm tr
dmeas tsm8	dm tsm8
dmeas tsmt1	dm tsmt
dmeas x25	dm x25
dmeas x25p	dm x25p
dmeas x75	dm x7
*dstat ai	ds ai
dstat bsc3270	ds b
dstat cc	ds cc
dstat concentrator	ds co
dstat cpmml	ds cp
dstat dkap	ds dk
dstat frm	ds f
*dstat frm-m2	ds frm-
*dstat gar	ds g
dstat lpm	ds l
dstat module	ds mo
dstat msm	ds ms
dstat node	ds n
dstat sam	ds sam
dstat samml	ds samm
dstat sdlc8	ds sd

Command	Minimal Abbreviation
*dstat shelf	ds sh
*dstat ssm4	ds ss
*dstat str4	ds st
dstat switch	ds sw
dstat trunk	ds tr
dstat tsm8	ds tsm8
dstat tsmt1	ds tsmt
dstat x25	ds x25
dstat x25p	ds x25p
dstat x75	ds x7
enter address	en ad
*enter ai	en ai
†enter aim	en ai
enter bdt	en bd
†enter bridge	en br
enter bsc3270	en bs
enter concentrator	en co
enter cpm	en cpm
enter cpmml	en cpmm
enter dkap	en dk
enter e2a	en e
enter frm	en frm
*enter frm-m2	en frm-
*enter gar	en gar
enter gateway	en gat
enter group	en gr
enter logoff	en lo
enter lpm	en lp
enter msm	en m
enter node	en n
enter profile	en p
enter sam	en sam
enter samml	en samm

Command	Minimal Abbreviation
enter sdlc8	en sd
*enter shelf	en sh
enter slm	en sl
enter sphaddr	en sp
*enter ssm4	en ss
*enter str4	en st
*enter threshold	en th
enter trunk	en tr
enter tsm8	en tsm8
enter tsmt1	en tsmt
enter ty	en ty
enter x25	en x25
enter x25p	en x25p
enter x28sig	en x28
enter x75	en x7
exit	ex
help	h
initialize circuits	ini ci
initialize controller	ini co
initialize hardware	ini h
initialize standalone	ini s
install backout	ins b
install disklayout	ins d
install registration	ins reg
install release	ins rel
move module	m m
remove address	rm ad
*remove ai	rm ai
†remove aim	rm ai
remove bdt	rm bd
†remove bridge	rm br
remove bsc3270	rm bs
remove concentrator	rm co

Command	Minimal Abbreviation
remove cpm	rm cpm
remove cpmml	rm cpmm
remove dkap	rm dk
remove e2a	rm e
remove frm	rm f
*remove frm-m2	rm frm-
*remove gar	rm g
remove host	rm h
remove lpm	rm l
remove msm	rm m
remove sam	rm sam
remove samml	rm samm
remove samtrk	rm samt
remove sdlc8	rm sd
*remove shelf	rm sh
remove slm	rm sl
*remove ssm4	rm ss
*remove str4	rm st
remove switch	rm sw
remove trunk	rm tr
remove tsm8	rm tsm8
remove tsmt1	rm tsmt
remove ty	rm ty
remove x25	rm x25
remove x25p	rm x25p
remove x75	rm x7
restore address	rs ad
*restore ai	rs ai
†restore aim	rs aim
†restore bridge	rs br
restore bsc3270	rs bs
restore concentrator	rs co
restore cpm	rs cpm

Command	Minimal Abbreviation
restore cpmml	rs cpmm
restore dkap	rs dk
restore e2a	rs e
restore frm	rs frm
*restore frm-m2	rs frm-
*restore gar	rs g
restore host	rs h
restore lpm	rs l
restore msm	rs m
restore sam	rs sam
restore samml	rs samm
restore samtrk	rs samt
restore sdlc8	rs sd
*restore shelf	rs sh
restore slm	rs sl
*restore ssm4	rs ss
*restore str4	rs st
restore switch	rs sw
restore trunk	rs tr
restore tsm8	rs tsm8
restore tsmt1	rs tsmt
restore ty	rs ty
restore x25	rs x25
restore x25p	rs x25p
restore x75	rs x7
retire alarm	reti a
retrieve host	retr h
retrieve save	retr s
retrieve tape	retr t
route output	ro o
route trunk	ro t
schedule measurements	sc m
schedule periodic_bill	sc p

Command	Minimal Abbreviation
set cpackets	se cp
set time	se ti
*set trace	se tr
stop	stop
*switch str4	sw st
switchover switch	sw sw
sync	sy
utilsh	ut
verify address	v ad
*verify ai	v ai
†verify aim	v aim
verify bdt	v bdt
*verify bdtabl	v bdta
verify bridge	v br
verify bsc3270	v bs
verify comment	v com
verify concentrator	v con
verify cpm	v cpm
verify cpmml	v cpmm
verify dkap	v dk
verify e2a	v e2
verify epn	v ep
verify frm	v frm
*verify frm-m2	v frm-
*verify gar	v gar
verify gateway	v gat
verify group	v gr
verify host	v h
verify logoff	v lo
verify lpm	v lp
verify module	v mo
verify msm	v ms
verify node	v n

Command	Minimal Abbreviation
verify oosmods	v oosm
verify oosports	v oosp
verify profile	v p
verify registration	v r
verify sam	v sam
verify samml	v samm
verify schedule	v sc
verify sdlc8	v sd
*verify shelf	v sh
verify slm	v sl
verify sphaddr	v sp
*verify ssm4	v ss
*verify str4	v st
*verify threshold	v th
*verify trace	v tra
verify trunk	v tru
verify tsm8	v tsm8
verify tsmt1	v tsmt
verify ty	v ty
verify x25	v x25
verify x25p	v x25p
verify x28sig	v x28
verify x75	v x7

Monitor Commands

The following commands can be entered at the **MONITOR>** prompt. For on-line help, enter **help**.

Command
boot [<*device* (*p, s,* [*p*]*t, st*)> [/<*partition* (*0/1/3*)>]]
dcc <*source device*> <*target device*>
di <*bit pattern*> (*see* **Bit Patterns...** table)
help - or - **?**

Bit Patterns for Diagnostic Tests

Value	Meaning
f7dd	Initiates all tests - CCM System
f7ff	Initiates all tests - ECPU System
0001	Non-destructive local RAM test
0002	USART test - ECPU only
0004	Timer test
0008	EPROM Check Sum test
0010	Destructive off-board RAM test*; for CCM, MMU test
0020	Nondestructive off-board RAM test*
0040	DKI test
0080	SBC030 Status Register test; Bus error and DRAM parity test
0100	Primary Disk test
0200	Primary Tape test
0400	Primary SCSI test
1000	Secondary Disk test
2000	Secondary Tape test
4000	Secondary SCSI test
8000	Destructive local RAM test

* Factory test only.

Utility Commands

The following commands can be entered at the **UTILITY>** prompt.

Command	Command
cd	exit*
chgtape (CCM only)	fsck
copystage	loadrel*
copystby	ls
cp	mcsusage*
dbaudit*	mount
dbresize*	mv
dbupgrd†	reboot
diskcopy†	rm
diskcpvfy†	stop*
diskvfy†	sync
dktobns†	umount
dupdisk	

* Available at operations utility shell only.

† Available at standalone utility shell only.

Loader Commands

The following commands can be entered at the **LOADER>** prompt.

To get on-line help, enter **help**.

Command
dir [<*device*>[/<*partition* (*0,3*)>]: [<*directory*>]]
help - or - **?**
load [<*device*>[/<*partition* (*0,3*)>]: [<*program*>]]
monitor
run [<*device*>[/<*partition* (*0,3*)>]: [<*program*>]]

Start-up Commands

After booting the node, the **<STARTUP>$** prompt appears. At that time, acceptable entries include the following:

Command	Function
RETURN	Continue processing to the prompt: **CC0>** or **CC1>**
sh	Execute */bin/mini_sh*.
fsck <*option(s)*> <*file system*>	Check the disk file system.

MRC Commands

The following commands can be entered at the **MRC>** prompt. To get on-line help, enter

help

or

help plus the command verb (for example, **help connect**).

Command	Command
connect	initialize standby
connect 0	load
connect 1	remove standby
connect active	restore standby
connect standby	retire alarm
diagnose internal	set a <*aau, alarm, baud, command*>
diagnose io	set address <*slot number*>
display diagnostic	set attention
display status	set b <*aau, alarm, baud, command*>
display time	set m set m baud <*option*> set m password <*option*>
help	set name
help <*command verb*>	set recovery
initialize 0	set time
initialize 1	switchover
initialize active	

Service Address Formats

Mnemonic			X.121 Numeric		
Examples	**Format**	**Level**		**Format**	**Examples**
usa 10 net01	*see* * below; also not four digits	network	DNIC	four digits from 0000–9999	1111 1201 3212
nj 2010 area01	*see* * below; also not three digits	area	SR	three digits from 000–999	003 201 369
medford 9630 exch01	*see* * below; also not three digits	exchange	SA	three digits from 000–999	001 554 999
lenape 02321 x0232	*see* * below; also not four digits	local/ speedcall	EPN	four digits from 0000–9999 (or a range)	1234 9999 1234-9999

* At all levels: 1–8 alphanumeric characters, but not *all, none*, blank spaces, or special characters.

Key: DNIC Data Network Identification Code; SA Service Area; SR Service Region; EPN Endpoint Number

Formats for X.25/X.75 Addressing

Numbering Plan	Address Format			
X.121 International	*p*	DNIC + NTN	or	DCC + NN
	1	4 + <4-10>		3 + 1
X.121 North American	*p*	DNIC + SR + SA + EPN		
	1	4 + 3 + 3 + 4		
E.164	*p*	<*e*> CC + N(S)N	or	<*e*> TCC + N(S)N
	1	<*1*> <1-3> + <4-14>		<*1*> <1-3> + <4-14>

Key:
italics indicate optional elements

p (local node or international prefix) = optional one-digit number, from 0 to 9

DNIC (Data Network Identification Code) = four-digit number, which can consist of a DCC plus NN

DCC (Data Country Code)= three-digit number from 000 to 999

NN (National Number) = one-digit number from 0 to 9

NTN (Network Terminal Number) = four- to 10-digit number, which can consist of an SR, SA, and EPN

SR (Service Region) = three-digit number, from 000 to 999

SA (Service Area) = three-digit number, from 000 to 999

EPN (Endpoint Number) = four-digit number, from 0000 to 9999

e (escape code) = one-digit number, 0, 8, or 9

CC (Country Code) = one- to three-digit number, from 1 to 999

TCC (Telephone Country Code) = one- to three-digit number, from 1 to 999

N(S)N (National [Significant] Number) = four- to 10-digit number that can consist of an NDC and SN

NDC (National Destination Code) = five- to 14-digit number (if CC is one digit); four- to 13-digit number (if CC is two digits); or four- to 12-digit number (if CC is three digits)

SN (Subscriber Number) = 10-digit number from 0 to 9

Note: A PDNID (Public Data Network Identifier) is like an NN; it is a one-digit number from 0 to 9, which can be the last digit of the DNIC.

Dial String Format Examples

Examples		
Mnemonic	**Numeric**	**Mixed**
1. For a destination in the same exchange/SA:		
lenape	1234	
02321	9999	
x0232	1255	
2. For a destination in a different exchange/SA:		
medford/lenape	001/1234	medford/1234
9630/02321	554/9999	554/02321
exch01/x0232	999/1255	999/x0232
3. For a destination in a different area/SR:		
nj/medford/lenape	003/001/1234	nj/medford/1234
2010/9630/02321	201/554/9999	2010/554/02321
area01/exch01/x0232	369/999/1255	area01/999/1255
4. For a destination in a different network/DNIC (X.121 NANP):		
usa/nj/medford/lenape	1111/003/001/1234	usa/nj/001/1234
10/2010/9630/02321	1201/201/554/9999	10/2010/554/9999
net01/area01/exch01/x0232	3212/369/999/1255	net01/369/exch01/1255
5. From an X.25 host to an international network (X.121 International):		
	079027654321	
	532345	
	942345678901234	

Note: If the network uses X.25 pass-through service, do not use DNIC, SR, or SA values that begin with the same digit as the node prefix.

Key:

DNIC	Data Network Identification Code
SR	Service Region
SA	Service Area
EPN	Endpoint Number